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Does Gamification Work? — A Literature Review of Empirical Studies on Gamification

Juho Hamari, Jonna Koivisto, Harri Sarsa

estimates that over 50% of

organizations managing innovation processes will

gamify aspects of their business by 2015

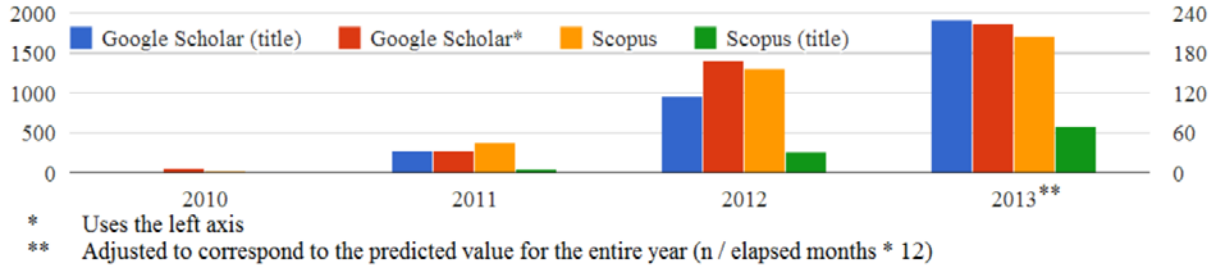

Figure 1. Search hits for "gamification"

Increase in searches for “gamification.”

Code Academy – site that gamifies learning programing languages

https://trepo.tuni.fi//bitstream/handle/10024/149091/Introduction_to_the_Minitrack_on_Gamification.pdf?sequence=1

Gamification

Juho Hamari, Zampeta Legaki, Nannan Xi, Benedikt Morschheuser

Gamification broadly refers to technological,

economic, cultural, and societal developments in

which reality is becoming more gameful either by

design or as an emergent transformation (Hamari,

2019)

– (yes he is siting himself)

Gamification: State of the Art Definition and

Utilization

Fabian Groh

This study is a cross sectional recontextualization of gamification.

https://d-nb.info/1020022604/34#page=39

foldit- protein folding game

what is gamification?

Ludus

Using game design in non-game Contexts

Using Ludus in non-game contexts to increase engagement

“user activity and retention are improved by combining game design elements with non-game.

context. This phenomenon is called "gamification" in most cases.”

Recap this paragraph:

- Provide interesting challenges
- Provide clear, visual, varying, and well structured goals
- Provide jucy feedback
- Beware of unintended behaviors

Paidia and ludus (Caillois) (kah-ee-wah)

Paidia (free form, expressive, improvisational) play

Ludus (rules-based, objective oriented) gaming

Padia and ludus are medium-independent; Technical and Social elements

Serious games:

Solve problems to learn, investigate, advertise (Flight Simulators, America's Army, City Skylines)

Defining Game Elements:

"Ten Ingredients of Great Games" by Reves and Red [8]

Examples (Avatars, time constraints, feedback, ranks or levels.)

Game-Design redefined as using game elements in the real world.

Instead of calling it game-based technology, its called game design.

Level	Description	Example
Game interface design patterns	Common, successful interaction design components and design solutions for a known problem in a context, including prototypical implementations	Badge, leaderboard, level
Game design patterns and mechanics	Commonly reoccurring parts of the design of a game that concern gameplay	Time constraint, limited resources, turns
Game design principles and heuristics	Evaluative guidelines to approach a design problem or analyze a given design solution	Enduring play, clear goals, variety of game styles
Game models	Conceptual models of the components of games or game experience	challenge, fantasy, curiosity; game design atoms;
Game design methods	Game design-specific practices and processes	Playtesting, playcentric design, value conscious game design

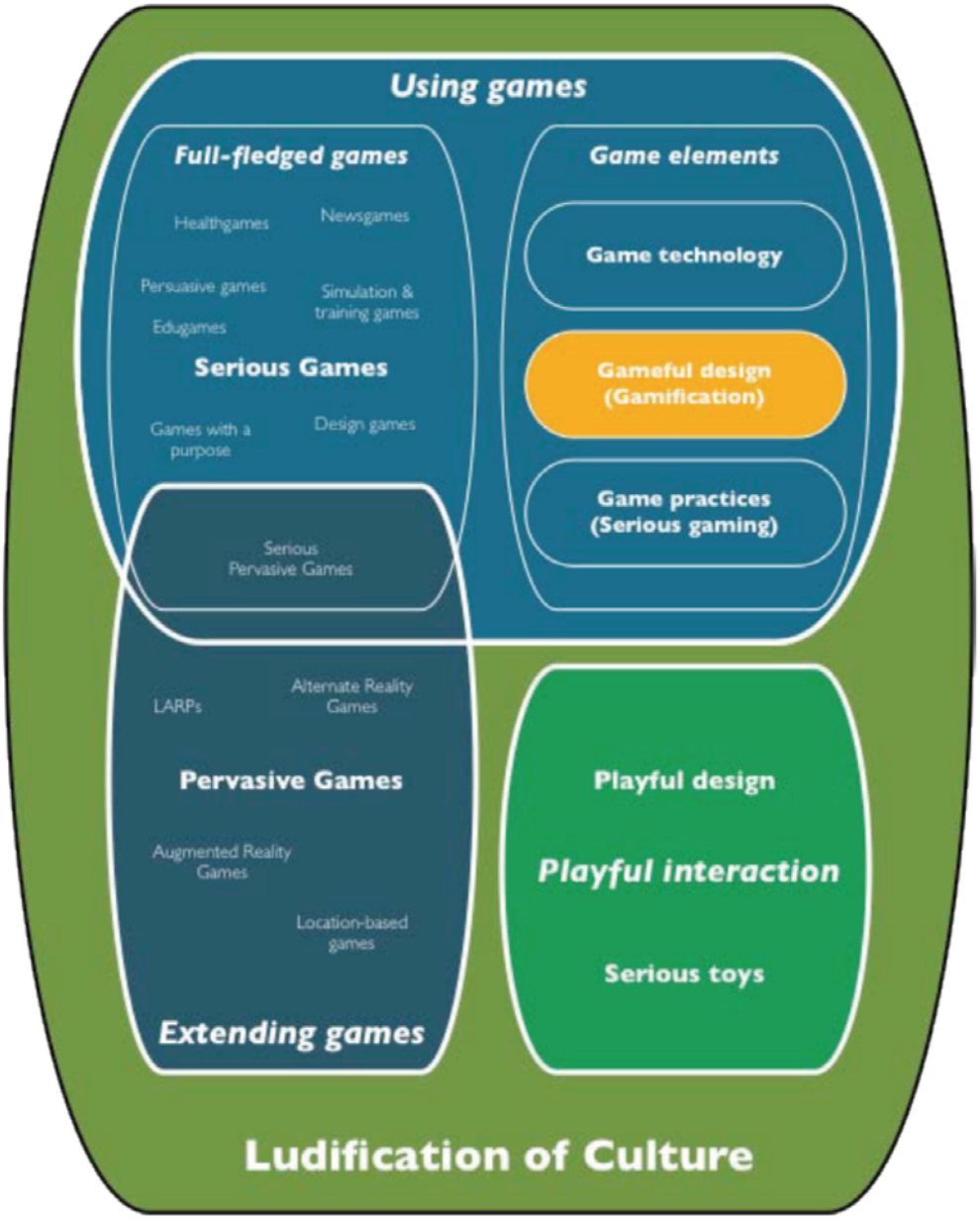

Figure 2. Placing the term gamification into the broader schema of ludification to get the relations. Graphic from Deterding [10].

Gamification at A Glance:

Ludus and Narrative

Video Games began as something simple. In the era of Pong, 50 years ago, gameplay was a dot interacting with two white bars. Today we have games with emergent gameplay, complex open worlds, and extremely refined gameplay loops. The collective experience from designing these structures of play coupled with the broad adoption of video games has led to the combination of non-game contexts with game design to increase user engagement. We call this “gamification”; a term coined in the 1900’s and popularized by thinkers such as Roger Callious.

The current zeitgeist surrounding gamification is as a motivational tool for humans to do “work” better. What this means in practice is that the designers of a gamified system look for ways to exploit the reward systems of our brains by taking advantage of theories and concepts from game design. Game Design, whose roots predate video games and extend into psychology, is the study of these systems of play and can be further refined into specific areas. The two most important in the context of the Vida10 project are Ludus and Narrative.

Ludology is the study of gameplay, the act of gaming, the gamers and cultures surrounding them. Its closely related counterpart, Narrative, are the methods and design decisions developers choose to convey information to the player. In thoughtful game design, narrative follows ludus. Pragmatically, the way and pace the player learns information is dictated by the gameplay.

This can be better understood by analyzing a game designed with perfect subtlety. In the game Dark Souls (FromSoftware 2011), the player awakens to a brutal world after creating a character and choosing a class. You’re given little direction, coming only from short message prompts from the ground, but the environment points you toward your next objective. The developers have chosen to let the gameplay be discovered through the time the player spends playing. Instead of telling us exactly how to play, they give basic information and let the player uncover for themselves how the mechanics of the game function.

The important information that the player needs to understand is stated in a way that is simple and upfront. The simplest form of educating the player is through plain text. All mediums of instruction have limits inherent to them. This means deep consideration of the context and complexity of what is being taught. FromSoftware understood that the most critical information the player needs to know needed to be given in a format that would be hard to miss for new players. The more complex information - the pace of combat, weapon classes, ranks of enemies – is left for the player to learn through play. Vida10 is not Dark Souls and the information the project wants to teach players differs categorically.

In the context of Vida10, we are tasked not with bringing game design to a non-game context but rather to build a game to deliver new information to an otherwise atypical audience. Our decision will revolve around how we can best teach players the essentials of healthy living. The first critical step

toward gamification is to define all that we want to teach and what gameplay loops we will build to pass that information.

Game Design has many tools for how we can instruct our players. Through thoughtful planning we can create a game where information is always given through adequate means.